



Documentos de Trabalho  
Working Paper Series

*"International Investment Movements"*

Ledyaeva Svetlana Vladimirovna

NIPE WP 3 / 2000

## International Investment Movements.

Ledyaeva Svetlana Vladimirovna

Khabarovsk State Academy of Economics and Law

University of Minho

October 23, 2000

Correspondence address: Ledyaeva S.V., Faculty of International Economic Relations, Economic Theory Department, Khabarovsk State Academy of Economics and Law, Tihookeanskaya street 134, 680000 Khabarovsk, Russia. Email: [svetalda@yahoo.com](mailto:svetalda@yahoo.com)

Acknowledgements: this paper was written while at the University of Minho (Braga, Portugal). Financial support was provided from Programa Tempus/Tacis (European Union). The author wishes to thank Francisco José Veiga, for very helpful comments.

## Introduction.

In recent years foreign investment has become an important feature of the development of world economy. The aim of this study is to determine the main factors that stimulate international investment flows. For this purpose the theory of international investment will be reviewed in the first section of the work. The classification of the macro- and microeconomic factors influencing international investment movements will be represented.

In the second section of the study, the regression analysis (times series and pooled regressions) is used to show that there is a relationship between imports (X) and inward foreign investment (Y); exports (X) and outward foreign investment (Y); inward foreign direct investment (X) and employment (Y); and inward foreign direct investment (X) and exports (Y).

### 1.The review of the theory of international investment.

Foreign investment is a part of international capital movement (international capital transactions). Capital transactions are concerned with the movement of financial capital into and out of the country, and they are recorded in the capital account.

In economic literature, international investments are identified as long-term international movements, which are divided into portfolio and direct investment.

International investment in the form of portfolio investment is the purchase of a stock or bond issued in a foreign currency. Portfolio investment includes investment whose primary purpose is to get future income. If you purchase bonds issued by the corporations, you have no share of ownership and no right to help make decisions, no matter how many bonds you own. If you buy shares of common stocks in a corporation, you become part owner and can vote at annual meetings. But if you buy enough shares, you can acquire control. The economic literature stresses that this is the essential distinction between direct and portfolio investment (Ethier, 1995, p.303-304). Capital flows are typically designated as foreign direct investment (FDI) when a foreigner owns 25% or more of a firm (in the US – 10% or more), regardless of whether the capital flows are used to purchase new plant and equipment or to buy an ownership position in an existing firm (Soberston and Reed, 1994, p.462).

*FDI* may take a number of different forms including:

- The establishment of a new enterprise in an other country – either as a branch or as a subsidiary;
- The expansion of an existing overseas branch or subsidiary;

- The acquisition of an overseas business enterprise or its assets (Buckley, 1998, p.110).

*FDI* in economic literature is defined as one of the forms of international business (the other two are (1) trade and (2) international licensing of technology and intellectual property (trademarks, patents, and copyright)) (Schaffer, 1996, p.5).

*Multinational corporations* are firms with significant FDI assets. They are characterized by their ability to derive and transfer capital resources worldwide and to operate facilities of production and penetrate markets in more than one country, usually on a global scale (Schaffer, 1996) (Schaffer, 1996, p.18).

From the income accounting identities (for an open economy), it is:

$$X - M = S - I = Y - A = I_f$$

where  $X$  is exports,  $M$  is imports,  $S$  is savings,  $I$  is investment,  $A$  is domestic absorption (consumption  $C$  + investment  $I$ ),  $I_f$  is foreign investment.

Thus, if a country's income is less than its absorption, investment is greater than savings and the country is running a trade deficit, the country is financing it with capital inflows (one of the forms of which is foreign investment), i.e.  $I_f$  is negative, and vice versa (Butler, 1997, p.314-315).

The relationship between domestic investment and economic growth has been widely investigated by economists. The theory of economic growth stresses that a particular growth rate of the economy can be reached only with a particular growth rate of investment. But the rate of domestic investment can be constrained in three principal ways: (1) by the capacity of the country to absorb additional capital; (2) by the level of its domestic savings; (3) by the availability of foreign exchange. With a given  $k$  (the incremental capital-output ratio), any one of these three constraints may impose a ceiling on the level of investment and, therefore, on the rate of growth in GDP.

If the target rate of growth is  $\bar{g}$ , the rate of investment required achieving this target rate is  $\bar{r}$ , the country's current rate of capital absorption capacity  $a$  (expressed as a

percentage of GDP). Then if  $\bar{r} > a$ , absorptive capacity places a limitation on the rate of growth.

In the absence of any net foreign borrowing ( $M = X$ ), then  $I = S$ , the rate of investment ( $r$ ) equals the rate of domestic savings ( $s$ ), and  $r/k = s/k$ . Now assume that a country's target rate of growth is  $\bar{g}$  and the required rate of investment is  $\bar{r}$  while the rate of domestic savings is  $s$ . Then if  $s < \bar{r}$ , there is a domestic savings gap that will prevent the attainment of the target rate of growth:  $g = s/k = r/k < \bar{r}/k < \bar{g}$ .

When its savings gap is financed by net borrowing from abroad that permits an excess of imports over exports, then a country is able to achieve its target rate of growth:  $\bar{I} = S + (M - X)$ , where  $\bar{I}$  is the required level of investment. If  $b$  is  $(M - X)$  expressed as a percentage of gross domestic product (the rate of foreign borrowing), then  $\bar{g} = s/k + b/k = \bar{r}/k$ .

In the absence of capital-absorption and savings gaps, the growth rate of a country may still be constrained by a foreign exchange (trade) gap. In order to invest, a country in many cases must acquire from abroad the capital equipment and other investment goods that it is unable to produce at home. If the output released by domestic savings can be allocated to exports or import substitution, then the foreign exchange necessary to purchase investment goods from abroad is forthcoming. In that event, there is no foreign exchange gap distinct from a savings gap. But in developing countries, the capacity to allocate resources is commonly limited by internal structural obstacles as well as external obstacles that curb export growth.

Because of the foreign content of capital formation, a developing country will require a certain level of imports ( $\bar{M}$ ) to sustain a desired level of investment ( $\bar{I}$ ). In the absence of external borrowing, a country can only obtain  $\bar{M}$  through export ( $X$ ). If, therefore,  $\bar{M} > X$ , there is a trade or foreign exchange gap that blocks the attainment of

$\bar{I}$ . The foreign exchange gap ( $\bar{M} - X$ ) will place a ceiling on actual investment. As was true of the savings gap, the foreign exchange gap may be closed by external finance (b). When it is fully closed ( $b = \bar{M} - X$ ), then the foreign exchange gap no longer constraints that desired level of investment and growth (Root, 1994, p.523-528).

So, these explanations of foreign investment movements lye in the context of income accounting and growth theory.

Now let's turn to the theory of international investment which has been developing for a long time and gives many different explanations of international investment flows. Neoclassical financial theory saw the interest rate differentials as the sole driving force of capital movements (assuming transaction costs to be zero). In many neoclassical models it is usually postulated that capital flows will be a function of interest rate differentials, i.e. return criteria, and of differing subjective perceptions of risk including exchange rates expectations (inflation rate expectations), i.e. risk criteria (Gilman, 198, p.21). But interest differentials can explain only one-way flows of capital, from the low to the high interest rate country, yet realistically, capital flows both ways between most pairs of countries (Melvin, 1997, p.119). A large amount of economic literature argues that the international diversification motive leads to the two ways flows of capital between countries (in this case the investor can reduce the risk associated with investment). Many studies have demonstrated the gain from international diversification: Levi, 1996 (p.440) gives as an example the study of Solnic (1974); and Butler, 1997 (p.543) – the study of Doucas and Travlos (1988).

However, there is evidence that investors sometimes greatly favor domestic assets and invest much less in foreign assets. Eun and Resnick, 1998 (p.296) gives as an example of home bias in portfolio holdings the study of Cooper and Kaplanis (1994).

So the question is: Why do investors have this bias in favor of securities of their home country? The economic literature on the cause determines two main reasons: taxes and transactions costs. So, if the tax on foreign securities is high enough to offset the higher return (or lower risk) expected from these securities, the investor would prefer to invest money in domestic securities. If transaction costs (the costs of buying and selling foreign assets) are greater than the costs associated with domestic assets, then we would expect to see foreign securities being traded less frequently than domestic securities because investors would be more likely to follow a but-and-hold strategy with their foreign securities (Eun and Resnick, 1998, p.297).

Economic literature on the causes also suggests another explanation of international capital mobility – the lack of correlation between national savings and national investment. Hanink (1994) mentions the study of Feldstrein and Horioka (1980). He stresses that they were the first to examine this correlation, and they found very high rates of this correlation in all cases (they examined both coincident and lagged relationships for individual years and over time), which means that capital is largely immobile and its mobility has not been increasing over time.

The saving-investment correlations for all countries and by World Bank Income Group during 1990 are given in the table 1.

*Table1. Capital Mobility Indicator by World Bank Income Group, 1990*

Income group	Savings-Investment Correlation
All	0.996
Low	0.996
Low Middle	0.962
High Middle	0.991
High	0.996

Source of original data: World bank, 1992. World Development report 1992 (New York: Oxford University press) (Hanink, 1994, p.140).



This type of measures illustrates the low degree of capital mobility between countries. The saving-investment correlations are high in each case and suggest that capital mobility is no greater for rich countries than for poor ones. But still the empirical evidence shows that it's not true.

Critics of this measure of capital mobility have countered the evidence for capital immobility with empirical and theoretical arguments. The foremost empirical argument for capital mobility is the extremely high value of sales of foreign currency that take place every year. Compared to the value of world trade in goods and services, capital trade is greater by about 5.5 times on an annual basis. Golub (1990) has noted that foreign exchange sales are not really measures of the amount of capital that crosses borders but are more a function of the frequency of transaction. They inflate the value of capital flows in the same way that counting each sale of stock during a year would be misleading as to the value of the stock. Golub showed that, in fact, gross capital flows are actually quite small proportions of gross domestic investment.

On the theoretical side, Wong (1990) has argued that high correlations between domestic savings and investment do not really tell us anything about capital mobility. The relationship between savings and investment is a measure of a country's ratio of traded goods to non-traded goods, and not of capital mobility. A country with a relatively closed economy, with a very high proportion of non-traded goods in consumption, generates by necessity most of its own financing for investment. Capital flows counteract trade flows in national accounting, so countries with relatively small trade flows will also have relatively small capital flows.

Many economists consider that the best evidence for capital mobility across countries is the existence of differences between national savings and national investment (or exports and imports), that was already described above (Hanink, 1994, p.138-141).

Some economists argue that American business has gone abroad because of overproduction. So they assume that American enterprise go abroad (through investment) because of surplus of money. This approach can be called business cycle approach. But there is still evidence that American Foreign investment (as well as American exports) rise not only in response to the prosperity of the US, but also in response to the prosperity of the rest of the world.

So I have reviewed the theories that try to explain the international investment movement from the macroeconomic point of view. From the microeconomic point of view, the theory of international investment is built on several main approaches, which are summarized in Table 2.

*Table 2. The review of the theories of international investment (the microeconomic approach).*

<i>Name of approach</i>	<i>Representatives</i>	<i>Main features</i>
Market structure approach	Hymer (1960); Kindleberger (1969)	<p>A foreign firm, while investing abroad, must possess some specific advantage to compensate for the innate advantages of local firms. These “firm-specific” advantages proceed from four resources:</p> <ol style="list-style-type: none"> <li>1. imperfections in the market for goods caused by product differentiation, marketing skills, etc.</li> <li>2. imperfections in factor markets due to proprietary technology and management skills,</li> <li>3. economies of scale,</li> <li>4. government intervention in the marketplace.</li> </ol>

Product life cycle approach	Vernon (1966)	Most products undergo a predictable life cycle – from “new product”, to “maturing product”, and finally “standardized product” – which encourages firms to seek resources and markets abroad for certain profits. Knowledge about the market is an independent variable in the firm’s decision to trade or invest. Vernon argued that producers were more likely to introduce new products in their home markets, because there is a minimal emphasis on cost due to the product’s low price elasticity of demand. As product standardization occurs during the “maturing product” stage the need to decrease production costs becomes the paramount concern, and so producers may begin to shift production to a low cost foreign location.
Location or comparative advantages theories.	Kojima (1972, 1983).	These theories seek to understand the reasons for companies’ choice of location for their activities. These reasons are divided into two parts: 1) market access through a location close to end-customers or one which enables one company to get around customs barriers, and 2) access to resources to get low production costs or technical know – how. Theories of this kind pay particular attention to the international distribution of different stages in the business process, i.e., production, research and sales.
The internationalization theory	Coase (1937), Williamson, Buckley, Casson (1976)	This approach is based on the differences of transaction costs by carrying out tasks itself. Applied to international companies, this type of analysis focuses on the choice between the different forms of internationalization: creation of foreign affiliates, direct exports to the end customer, upstream integration or purchasing from foreign suppliers, development of alliances, subcontracting, etc.
The	Hymer	This approach is based on the premise that firms act

diversification approach	(1960); Kim, Huang and Burgers (1993)	as risk averse investors and use foreign investments to stabilize their returns.
--------------------------	---------------------------------------	--

Sources: Hatem, 1997 (p.45); MacKiernan, 1992 (p.91-103); Blaine, 1994 (p.36-58).

It should be stressed here, that theories described in Table 2 mostly refer to the explanation of the outward Foreign Direct Investment flows, while outward portfolio investment can be easily explained by the differences in the return and risk rates.

Attempts have been made to combine these different approaches (represented in Table 2), the best known example being the theory developed by Dunning (1980), also called OLI paradigm. This explains internationalization in terms of three basic factors: Ownership or the specific advantages of a company; Location, or the comparative advantage of operating in a given country; and Internalization, or the choice between carrying out the business function directly or relying on outside suppliers (Hatem, 1997, p.45).

Buckley, 1998 (p.130) mentions that Hood and Young (1979) advance four factors, which are relevant to the location-specific theory of FDI, which involves multinationals in seeking locations such that differences between benefits and costs are maximized.

Their four key factors are as follows:

- Labor costs. Real wage costs vary, not only between developing and industrialized countries, but also within these groupings. Thus, low-technology international industries may logically locate in other industries as technology becomes standardized.

- Marketing factors. FDI decisions may be affected by host-developing characteristics like market size, market growth, stage of development, and the presence of local competition.
- Trade Barriers. Many host countries trying to encourage inward investment use such impositions. Often multinationals set up local production facilities to protect an already developed export market when trade barriers are erected or mooted.
- Government policy. This may have a significant effect on the investment climate in a particular host country, either directly through fiscal incentives, monetary policies or the regulatory regime, or indirectly through the prevailing social environment (Buckley, 1998).

Concerning theories of FDI it is necessary to notice that theories do not in the main exclude one another and many economists combine elements of all. Generally, however, it is where they put their emphasis that divides them.

From the review of the factors that stimulate investing abroad can be divided into two groups:

1. Macroeconomic factors.

1) Government policy factors:

- Taxation policy
- Trade policy
- Monetary policy, etc

2) Business cycle factors:

- GDP growth;
- export growth.

3) World conditions factors:

- the economic growth in other countries;

- stability of political and economic situation of the potential recipient country.

## 2. *Microeconomic factors:*

### 1) Specific advantages or factors that give a firm a monopoly power in the market:

- Product differentiation, marketing skills;
- Proprietary technology and management skills
- Economies of scale.

### 2) Factors of reducing the costs of production:

- economies of scale;
- standardization of product.

### 3) Comparative advantages factors:

- The ability to be close to the end-customers;
- The ability to be close to cheap resources (labor, raw materials);
- The ability to be close to technical know-how.

### 4) Transaction costs factors

### 5) Diversification factors:

- rate of return differences;
- risk differences.

### 6) Marketing factors (see page 9).

It should be stressed that all these factors are interdependent.

One more factor isn't taken into account in the reviewed theory of international investment movements: excess stock. A less painful option to avoid excess stock is to fully use the overcapacity for production for foreign markets (another alternative is to cut fixed costs, for instance by laying off employees). This is a solution much favored in companies where the economic and social costs of 'downsizing' are great (Jempa and Rhoen, 1996, p.12-13).

From the review of factors inducing investing abroad one can derive the main motives of investing abroad. But it should be stressed here that the dominant motives for international investment (especially direct) are changing through time. For instance, the economic literature asserts that in the 1980s, in comparison with 1970s, the motives for FDI have shifted from making use of cheap local labor and local raw materials, to keeping abreast of the technology race and new trends in production and marketing.

There is also a rash of the literature trying to explain why a country or an individual firm attracts foreign investment. The main reasons are:

- lack of domestic finance;
- access to foreign technology.

## 2. Empirical Evidence.

### *2.1 The checking of the hypothesis that imports stimulate inward foreign investment and exports stimulate outward foreign investment.*

In section 1 of the work, it was stressed that in an open economy if a country has a savings gap ( $I > S$ ), a foreign exchange gap ( $M > X$ ), it needs foreign finance, and vice versa. So the suggestion can be made that imports stimulate inward foreign investment and exports stimulate outward foreign investment. Empirical investigation with the use of mathematical regression analysis was made to test this suggestion. Four countries were taken into account; four types of regression were used to test the hypothesis: linear,

logarithmic, power and exponential. Tables 3 and 4 summarize the results (the type of regression was chosen according to the highest value of  $R^2$ ).

Table3. The Results of regression analyses between Imports (x) and Inward Foreign Investment (y).

Country	Regression type	Equation	$R^2$ (adjusted $R^2$ )
Spain (1981-1998)	Power	$y = 2E-088^{***}(x^{2.5609})^{***}$ (-11.3) (18.3)	0.954 (0.951)
Italy (1972-1997)	Exponential	$y = 3699.6^{***}(e^{2E-05x})^{***}$ (40.2) (12.9)	0.875 (0.870)
USA (1980-1998)	Power	$y = 0.003^{***}(x^{2.0948})^{***}$ (-11) (24.6)	0.973 (0.971)
Japan (1980-1998)	Logarithmic	$y = 644.23\ln(x)^{***} - 3064.7^{***}$ (-11.2) (12.6)	0.9 (0.9)

Calculated on the basis of international financial statistics CD-ROM.

Note: 1) \*\*\* P-value<1%; \*\* 1%<P-value<5%; \*5%<P-value<10%.

2) (T-statistics).

3) All data used in the calculations was transformed into USD

Table 4. The Results of regression analyses of the relationship between Exports (x) and Outward Foreign Investment (y).

Country	Regression type	Equation	$R^2$ (adjusted $R^2$ )
Spain (1981-1998)	Power	$Y = 0.0049^{***}(x^{2.2945})^{***}$ (-13.4) (20.8)	0.964 (0.962)
Italy (1972-1998)	Exponential	$Y = 3.85938^{***}(e^{0.0199x})^{***}$ (10) (19.2)	0.939 (0.936)
USA (1980 – 1998)	Linear	$Y = 6.6414^{***}x - 1173.7^{***}$ (16.15) (-6.8)	0.939 (0.935)



Japan (1980 – 1998)	Logarithmic	$Y = 594.94^{***} \ln(x) - 2974.4^{***}$ (4.5754) (-4.3589)	0.606 (0.583)
---------------------	-------------	--	------------------

Calculated on the basis of International Financial Statistics CD-ROM of the IMF.

We can conclude that this approach to the explanation of foreign investment flows is supported statistically.

These results are also supported by a pooled regression for all selected countries. For imports (X) and inward foreign investment (Y), the strongest relationship is shown by the power regression type. The results are the following:

$$Y = 4.314^{***} \cdot X^{0.825^{***}} \quad (R^2 = 0.870; \text{adjusted } R^2 = 0.868)$$

(4.475)    (23.12)

For the linear type of pooled regression the results are the following:

$$Y = -11910 + 1.2718^{***}X \quad (R^2 = 0.6471; \text{adjusted } R^2 = 0.6226)$$

(-1.4)    (12.1)

The pooled regression, controlling for fixed effects has been also made, where X1 is imports; X2 is dummy variable of Spain; X3 is dummy variable of Italy and X4 is dummy variable of USA.

$$Y = -38.44 + 1.86^{***}X1 - 30425X2 - 112160^{***}X3 + 819.24X4$$

(-0.0034)    (12.8)    (-1.56)    (-5.08)    (0.051)

( $R^2 = 0.87$ ; adjusted  $R^2 = 0.76$ )

For export (X) and outward foreign investment (Y), the strongest relationship is shown by linear regression type. The results are the following:

$$Y = -420.879^{***} + 4.597X^{***} \quad (R^2 = 0.834, \text{adjusted } R^2 = 0.832)$$

(-7.75)    (19.91)

The pooled regression, controlling for fixed effects (where X1 is exports; X2 is dummy variable of Spain; X3 is dummy variable of Italy; X4 is dummy variable of USA) is the following:

$$Y = -914.124 + 5.54^{***}X1 + 725.58^{***}X2 + 394.27^{***}X3 + 164.132^{*}X4$$

(-11.264) (18.466) (7.8) (5.02) (1.66)

( $R^2 = 0.9086$ ; adjusted  $R^2 = 0.9038$ )

In this context the Kojima's (1972, 1983) Japanese model of FDI can be represented. The essence of Kojima's argument is that Japanese direct investment is typically based on comparative advantage and hence acts to complement trade (trade-oriented FDI); while US FDI often occurs in industries where US firms already have a large comparative advantage and thus serves as a substitute for trade (anti-trade oriented FDI). Kojima notes that anti-trade oriented FDI tends to export employment, promote trade deficits, and stifle local production, and concludes that the Japanese model of FDI is superior (Blaine, 1994, p.46-47).

So this regression investigation shows that in Japan outward Foreign Investment are not strongly dependent of country's export. So the conclusion can be made that outward foreign investment is not a substitute for trade in Japan. On the other hand in the US there is a strong linear regression relationship between outward foreign investment (Y) and export (X); and so it can be concluded that they are substitutes, so finance earned by exports is used for outward foreign investment. The positive relationship can be explained by the fact that outward foreign investment, in response, stimulate exports, therefore, both variables increase.

In general, the conclusion can be made that for this sample of countries, imports surely stimulate inward foreign investment and exports stimulate outward foreign investment.

*2.2. The checking of the hypothesis that Foreign Direct Investment stimulates Employment and Exports.*

The growth of Foreign Direct Investment spending usually corresponds to the growth of the multinational firms.

According to the MNEs theory, FDI increases employment in the country.

The relationship between inward FDI (X) and employment (Y) can be investigated with the use of regression analysis. Four countries were taken into consideration (the same sample as in section 2.1). As in the previous section four regression types were used to test the hypothesis. The results of the analysis are shown in Table 5.

*Table5. The Results of regression analysis between inward FDI (X) and employment (Y).*

Country	Regression type	Equation	R <sup>2</sup> (adjusted R <sup>2</sup> )
Spain (1985-1998)	Power	$Y=7265^{***} \cdot (X)^{0.0468^{***}}$ (83) (4.7)	0.651 (0.622)
Italy (1985-1997)	Exponential	$Y=21628^{***} \cdot (e^{(-7E-07 \cdot X)})$ (447.4) (-1.84)	0.236 (0.167)
USA(1985-1998)	Logarithmic	$Y=-22942^{***} + 10616^{***} \ln(X)$ (-2.8) (17.46)	0.962 (0.959)
Japan(1986-1997)	Logarithmic	$Y=24044^{***} + 4040.7^{***} \ln(X)$ (4.21) (6.7)	0.805(0.787)

Calculated on the basis of the International Financial Statistics CD-ROM of the

IMF

The results show that there is a strong positive relationship between variables in USA and Japan, there is evidence of some positive relationship in Spain, for Italy, the  $R^2$  is not high enough to speak about the relationship between variables.

The pooled regression was made to test the hypothesis. The pooled regression, controlling for fixed effects has been also made where X1 is inward FDI, X2 is dummy variable of Spain, X3 is dummy variable of Italy and X4 is dummy variable of USA. Results were the following:

$$Y = 36743.41*** + 0.07***X \quad (R^2 = 0.5155; \text{adjusted } R^2 = 0.5062)$$

$$(7.7) \quad (7.44)$$

$$Y = 62247.89*** + 0.01194***X1 - 50985.5***X2 - 42063.2***X3 + 47374.44***X4$$

$$(114.33) \quad (12.31) \quad (-67.31) \quad (-54.59) \quad (44.09)$$

$$(R^2 = 0.9981; \text{adjusted } R^2 = 0.9979)$$

Therefore, there is evidence of a positive relationship between inward Foreign Direct Investment and employment in the selected countries for a period of 12-13 years.

The next hypothesis is that Foreign Direct Investment may increase foreign exchange earnings through increasing exports.

The relationship between Exports (Y) and inward FDI (X) has been empirically investigated for the selected countries. The Results are represented in Table 6.

*Table 6. The Results of the regression analysis between Exports (Y) and inward FDI (X).*

Country	Regression type	Equation	R <sup>2</sup> (adjusted R <sup>2</sup> )
Spain (1981-1998)	Exponential	$y = 19.646^{***}(e^{0.011^{***}x})$ (47) (12)	0.899(0.892)
Italy (1972-1997)	Linear	$y = 2.6495^{***}x + 29.044^{***}$ (18.96) (5.3)	0.937(0.935)
USA(1980-1998)	Power	$y = 24,659^{***}(x^{0.4394^{***}})$ (15.4) (12.9)	0.907(0.902)
Japan (1980-1998)	Linear	$y = 0,0096^{***}x - 0,0202^{***}$ (31.6) (-55.9)	0.983(0.982)

Calculated on the basis of International Financial Statistics CD-ROM of the IMF

Results show a very strong relationship between the variables. They are supported by the pooled regression:

$$Y = 62.72^{***} + 0.414^{***}X \quad (R^2 = 0.7946; \text{adjusted } R^2 = 0.7921)$$

(6.62)      (17.6)

The pooled regression, controlling for fixed effects (where X1 is inward FDI; X2 is dummy variable of Spain; X3 is dummy variable of Italy and X4 is dummy variable of USA), is the following:

$$Y = -3.6968 + 0.28887^{***}X1 + 28.24^{*}X2 + 104.56^{***}X3 + 208.10^{***}X4 \quad (R^2 = 0.93; \text{adjusted } R^2 = 0.927)$$

(-0.35)      (15.1)      (1.86)      (7.53)      (10.97)

Thus, there is evidence of a positive relationship between inward foreign direct investment and exports. In general, it can be concluded that inward FDI does stimulate exports in the short – run period.

#### Conclusions.

The theory of international investment movements offers several different explanations of foreign investment flows. They are: rate and risk rate differences; the international diversification motive; the lack of correlation of national savings and investment; the difference between national saving and investment (or exports and imports); business cycles; transactions costs differences; economies of scale, etc. Following these theories the main factors influencing international investment movement were derived and divided into two groups: macro- (GDP growth; government policy, economic and political conditions in the world) and microeconomic factors (transaction costs; marketing factors; economies of scale, etc).

The regression analyses indicated that in the selected countries there is a strong relationship between imports (X) and inward foreign investment (Y); exports (X) and outward foreign investment (Y); exports (y) and inward foreign direct investment (X). There is also evidence of the relationship between employment (Y) and inward foreign direct investment (X). From this analysis, the conclusion was made that imports stimulate inward foreign investment; exports stimulate outward foreign investment; inward foreign direct investment stimulates exports; and there is also evidence that inward foreign direct investment stimulates employment.

## References

1. Blaine, Michael J. (1994), *Co-operation in International Business*, First edition, Avebury Ashgate Publishing Company, Aldershot.
2. Buckley, Adrian (1998), *International Investment: value creation and appraisal, a real options approach*, First edition, Handshojkskolens Forlag, Copenhagen.
3. Butler, Kirt C. (1997), *Multinational Finance*, First edition, South-Western College publishing company, Ohio.
4. Ethier, Wilfred J. (1995), *Modern International Economics*, Second edition, WW Norton and Company, New York .
5. Eun, Cheol S. and Resnick Bruce G. (1998), *International Financial Management*, First edition, Irwin McGraw Hill, Singapore.
6. Franklin, Root (1994), *International Trade and Investment*, First edition, South-Western publishing company, Cincinnati.
7. Gilman, Martin G. (1981), *The Financing of Foreign Direct Investment; a study of the determinants of capital flows in multinational enterprises*, First edition, MacMillan, London.
8. Hanink, Dean M. (1994), *The International Economy: a geographical perspective*, First edition, John Wiley, New York.

9. Hatem, Fabrice (1997), *International Investment: Towards the year 2001*, UN publications, [S.I].
10. Jempa, Cartinus J., Andre Rhoen (1996), *International Trade: a business perspective*, First edition, Longman, London.
11. Levi, Maurice D.(1996), *International Finance: the markets and financial management of multinational business*, Third edition, McGraw-Hill Inc., United States.
12. MacKiernan, Peter (1992), *Strategies of Growth: Maturity, Recovery and Internationalization*, First edition, Routledge, London.
13. Melvin, Michael (1997), *International Money and Finance*, Fourth edition, Addison Wesley, Mas., Ohio.
14. Schaffer, Richard (1996), *International Business Law and Its Environment*, Third edition, West Publishing company, Minneapolis.
15. Soberston, Bo and Reed, Geoffrey (1994), *International Economics*, Third edition, Macmillan, London.